10/568745

AP20 Rec'd PCT/PTO 2.1 FEB 2006

SEQUENCE LISTING

<110> TAKARA BIO INC.

<120> Process for the preparation of lymphocyte having cytotoxic activity

<130> 04-058-PCTJP

<150> JP 2003-298208

<151> 2003-08-22

<150> JP 2004-699

<151> 2004-01-05

<150> JP 2004-115648

<151> 2004-04-09

<150> JP 2004-222441

<151> 2004-07-29

<160> 29

<210> 1

(211) 87

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named 111-8

<400> 1

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser ile Asp Leu Thr Asn Phe Leu

20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lie Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr

50

65

80 85

<210> 2

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named III-9

<400> 2

Gly Leu Asp Ser Pro Thr Gly lie Asp Phe Ser Asp lie Thr Ala

1 5 10 15

Asn Ser Phe Thr Val His Trp lle Ala Pro Arg Ala Thr lle Thr

20 25 30

Gly Tyr Arg Ile Arg His His Pro Glu His Phe Ser Gly Arg Pro

35 40 45

Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile Thr Leu Thr

50 55 60

Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser lle Val Ala Leu

65 70 75

Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln Gln Ser Thr

80 85 90

<210> 3

(211) 94

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named | | 1 | -10

<400> 3

Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro

10 5 15 Thr Ser Leu Leu IIe Ser Trp Asp Ala Pro Ala Val Thr Val Arg 20 25 Tyr Tyr Arg lle Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val 35 40 45 Gin Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr ile Ser 50 55 60 Gly Leu Lys Pro Gly Val Asp Tyr Thr lle Thr Val Tyr Ala Val 65 70 75 Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile 80 85 90

Asn Tyr Arg Thr

<210> 4

<211> 84

<212> PRT

<213> Artificial Sequence

(220)

<223> partial region of fibronectin named III-11

<400> 4

Gin Met Gin Val Thr Asp Val Gin Asp Asn Ser ile Ser Val Lys

1 5 10 15

Trp Leu Pro Ser Ser Ser Pro Val Thr Gly Tyr Arg Val Thr Thr

20 25 30

Thr Pro Lys Asn Gly Pro Gly Pro Thr Lys Thr Lys Thr Ala Gly

35 40 45

Pro Asp Gln Thr Glu Met Thr lie Glu Gly Leu Gln Pro Thr Val

50 55 60

Glu Tyr Val Val Ser Val Tyr Ala Gln Asn Pro Ser Gly Glu Ser

Gin Pro Leu Vai Gin Thr Ala Vai Thr

80

<210> 5

(211) 92

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named III-12

35

<400> 5

 Ala Ile
 Pro Ala Pro Thr Asp Leu Lys
 Phe Thr Gin Val Thr Pro

 1
 5
 5
 10
 10
 15

 Thr Ser Leu Ser Ala Gin Trp Thr Pro Pro Asn Val Gin Leu Thr
 20
 25
 25
 30

 Giy Tyr Arg Val Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met

45

40

 Lys
 Giu ile
 Asn
 Leu
 Ala
 Pro
 Asp
 Ser
 Ser
 Ser
 Val
 Val
 Val
 Ser

 Gly
 Leu
 Met
 Val
 Ala
 Thr
 Lys
 Tyr
 Glu
 Val
 Ser
 Val
 Tyr
 Ala
 Leu

 Lys
 Asp
 Thr
 Leu
 Thr
 Ser
 Arg
 Pro
 Ala
 Gln
 Gly
 Val
 Val
 Thr
 Thr
 Thr

 80
 85
 90

<210> 6

Leu Glu

<211> 89

<212> PRT

<213> Artificial Sequence

(220)

<223> partial region of fibronectin named III-13

50

<400> 6

 Asn Val Ser
 Pro Pro Pro Arg Arg Ala Arg Val Thr Asp Ala Thr Glu

 1
 5
 10
 10
 15

 Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr Ile Thr 20
 25
 25
 30

 Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro Ile 35
 45

 Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly

60

55

Leu Gin Pro Gly Thr Asp Tyr Lys ile Tyr Leu Tyr Thr Leu Asn
65 70 75

Asp Asn Ala Arg Ser Ser Pro Val Val lie Asp Ala Ser Thr

80 85

<210> 7

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named 111-14

<400> 7

Ala ile Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro

1 5 10 15

Asn Ser Leu Leu Val Ser Trp Gin Pro Pro Arg Ala Arg ile Thr
20 25 30

Gly Tyr ile ile Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu
35 40 45

Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr ile Thr

Gly Leu Glu Pro Gly Thr Glu Tyr Thr lle Tyr Val lle Ala Leu

50

65

70 75

55

Lys Asn Asn Gln Lys Ser Glu Pro Leu lle Gly Arg Lys Lys Thr

<210> 8

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> partial region of fibronectin named CS-1

<400> 8

1

Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His

15

Gly Pro Glu ile Leu Asp Val Pro Ser Thr

5

20

25

10

<210> 9

<211> 274

<212> PRT

<213> Human

<220>

<223> fibronectin fragment named C-274

Pro	Thr	Asp	Leu	Arg	Phe	Thr	Asn	He	Gly	Pro	Asp	Thr	Met	Arg
1				5					10					15
Val	Thr	Trp	Ala	Pro	Pro	Pro	Ser	Пе	Asp	Leu	Thr	Asn	Phe	Leu
				20					25					30
Val	Arg	Tyr	Ser	Pro	Val	Lys	Asn	Glu	Glu	Asp	Val	Ala	Glu	Leu
				35					40					45
Ser	He	Ser	Pro	Ser	Asp	Asn	Ala	Val	V a !	Leu	Thr	Asn	Leu	Leu
				50					55					60
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Vai	Ser	Ser	Val	Tyr	Glu	Gin
				65					70					75
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	Gln	Lys	Thr	Gly	Leu	Asp
				80					85					90
Ser	Pro	Thr	Gly	He	Asp	Phe	Ser	Asp	Пe	Thr	Ala	Asn	Ser	Phe
				95					100					105
Thr	Val	His	Trp	lle	Ala	Pro	Arg	Ala	Thr	lle	Thr	Gly	Tyr	Arg
				110					115					120
He	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp
				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	lle	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	lle	Val	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro		Leu	lle	Gly	Gln	GIn	Ser	Thr	Val	Ser	
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Vai	Vai	Ala	Ala	Thr	Pro	Thr	Ser	Leu

185 190 195 Leu lie Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr Tyr Arg 200 205 210 lle Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu Phe 215 220 225 Thr Val Pro Gly Ser Lys Ser Thr Ala Thr lle Ser Gly Leu Lys 230 235 240 Pro Gly Val Asp Tyr Thr lle Thr Val Tyr Ala Val Thr Gly Arg 245 250 255 Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile Asn Tyr Arg

265

270

15

Thr Glu lle Asp

<210> 10

<211> 271

<212> PRT

<213> Human

<220>

<223> fibronectin fragment named H-271

260

<400> 10

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gin Val Thr Pro

1 5 10

Thr Ser Leu Ser Ala Gin Trp Thr Pro Pro Asn Val Gin Leu Thr

				20					25					30
Gly	Tyr	Arg	V a i	Arg	V a I	Thr	Pro	Lys	Glu	Lys	Thr	Gly	Pro	Met
				3 5					40					45
Lys	Glu	Пe	Asn	Leu	Ala	Pro	Asp	Ser	Ser	Ser	Val	V a 1	Val	Ser
				50					5 5					60
Gly	Leu	Met	Val	Ala	Thr	Lys	Tyr	Glu	Val	Ser	Val	Tyr	Ala	Leu
				6 5					70					75
Lys	Asp	Thr	Leu	Thr	Ser	Arg	Pro	Ala	Gln	Gly	V a I	V a I	Thr	Thr
				80					85					90
Leu	Glu	Asn	Val	Ser	Pro	Pro	Arg	Arg	Ala	Arg	V a I	Thr	Asp	Ala
				95					100					105
Thr	Glu	Thr	Thr	lle	Thr	lle	Ser	Trp	Arg	Thr	Lys	Thr	Glu	Thr
				110					115					120
Пе	Thr	Gly	Phe	GIn	Val	Asp	Ala	V a I	Pro	Ala	Asn	Gly	Gln	Thr
				125					130					135
Pro	He	GIn	Arg	Thr	lle	Lys	Pro	Asp	Val	Arg	Ser	Tyr	Thr	11e
				140					145					150
Thr	Gly	Leu	GIn	Pro	Gly	Thr	Asp	Tyr	Lys	i I e	Tyr	Leu	Tyr	Thr
				155					160					165
Leu	Asn	Asp	Asn	Ala	Arg	Ser	Ser	Pro	Val	Val	lle	Asp	Ala	Ser
				170					175					180
Thr	Ala	Пe	Asp	Ala	Pro	Ser	Asn	Leu	Arg	Phe	Leu	Ala	Thr	Thr
				185					190					195
Pro	Asn	Ser	Leu	Leu	Val	Ser	Trp	GIn	Pro	Pro	Arg	Ala	Arg	lle
				200					205					210
Thr	Gly	Tyr	Пe	ile	Lys	Tyr	Glu	Lys	Pro	Gly	Ser	Pro	Pro	Arg

t

215 220 225

Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr Ile
230 235 240

Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr Ile Tyr Val Ile Ala
245 250 255

Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu Ile Gly Arg Lys Lys
260 265 270

Thr

<210> 11

<211> 296

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named H-296

<400> 11

Ala Ile Pro Ala Pro Thr Asp Leu Lys Phe Thr Gin Val Thr Pro

1 5 10 15

Thr Ser Leu Ser Ala Gin Trp Thr Pro Pro Asn Val Gin Leu Thr
20 25 30

Gly Tyr Arg Val Arg Val Thr Pro Lys Glu Lys Thr Gly Pro Met
35 40 45

Lys Giu lle Asn Leu Ala Pro Asp Ser Ser Val Val Val Ser

				50					55					60
Gly	Leu	Met	Val	Ala	Thr	Lys	Tyr	Glu	Val	Ser	Val	Tyr	Ala	Leu
				. 65					70					75
Lys	Asp	Thr	Leu	Thr	Ser	Arg	Pro	Ala	Gln	Gly	Val	Val	Thr	Thr
				80					85					90
Leu	Glu	Asn	Val	Ser	Pro	Pro	Arg	Arg	Ala	Arg	Vai	Thr	Asp	Ala
				95					100					105
Thr	Glu	Thr	Thr	lle	Thr	l I e	Ser	Trp	Arg	Thr	Lys	Thr	Glu	Thr
				110					115					120
Пe	Thr	Gly	Phe	GIn	Val	Asp	Ala	Vai	Pro	Ala	Asn	Gly	GIn	Thr
				125					130					135
Pro	lle	Gln	Arg	Thr	lle	Lys	Pro	Asp	Val	Arg	Ser	Tyr	Thr	Пe
				140					145					150
Thr	Gly	Leu	Gln	Pro	Gly	Thr	Asp	Tyr	Lys	Пe	Tyr	Leu	Tyr	Thr
				155					160					165
Leu	Asn	Asp	Asn	Ala	Arg	Ser	Ser	Pro	Val	Val	lle	Asp	Ala	Ser
				170					175					180
Thr	Ala	lle	Asp	Ala	Pro	Ser	Asn	Leu	Arg	Phe	Leu	Ala	Thr	Thr
				185					190					195
Pro	Asn	Ser	Leu	Leu	Val	Ser	Trp	GIn	Pro	Pro	Arg	Ala	Arg	lle
				200					205					210
Thr	Gly	Tyr	lle	l l e	Lys	Tyr	Glu	Lys	Pro	Gly	Ser	Pro	Pro	Arg
				215					220					225
Glu	Val	Val	Pro	Arg	Pro	Arg	Pro	Gly	Val	Thr	Glu	Ala	Thr	lle
				230					235					240
Thr	Gly	Leu	Glu	Pro	Gly	Thr	Glu	Tyr	Thr	Пе	Tyr	Val	Пе	Ala

245 250 255

Leu Lys Asn Asn Gln Lys Ser Glu Pro Leu IIe Gly Arg Lys Lys
260 265 270

Thr Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu
275 280 285

His Gly Pro Glu IIe Leu Asp Val Pro Ser Thr
290 295

<210> 12

<211> 549

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CH-271

<400> 12

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg 5 1 10 15 Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu 20 25 Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu 35 40 45 Ser lie Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu 50 55 60

Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	Gln		
				65					70					75		
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	GIn	Lys	Thr	Gly	Leu	Asp		
				80					85					90	•	
Ser	Pro	Thr	Gly	lle	Asp	Phe	Ser	Asp	lle	Thr	Ala	Asn	Ser	Phe		
				95					100					105	-	
Thr	Val	His	Trp	lle	Ala	Pro	Arg	Ala	Thr	He	Thr	Gly	Tyr	Arg		
				110					115					120		
lle	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp		
				125					130					135		
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	1 I e	Thr	Leu	Thr	Asn	Leu	Thr		
				140					145					150		
Pro	Gly	Thr	Glu	Туг	Val	Val	Ser	lle	Val	Ala	Leu	Asn	Gly	Arg		
				155					160					165		
Glu	Glu	Ser	Pro	Leu	Leu	Пе	Gly	Gln	Gln	Ser	Thr	Val	Ser	Asp		
				170					175					180		
Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu		
				185					190					195		
Leu	lle	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg		
				200					205		٠			210		
He	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	Gin	Glu	Phe		
				215					220					225		
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	lle	Ser	Gly	Leu	Lys		
				230					235					240		
Pro	Gly	Val	Asp	Tyr	Thr	lle	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg		
				245					250					255		

Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	Пe	Asn	Tyr	Arg
				260					265					270
Thr	Glu	lle	Asp	Lys	Pro	Ser	Met	Ala	lle	Pro	Ala	Pro	Thr	Asp
				275					280					285
Leu	Lys	Phe	Thr	Gin	Val	Thr	Pro	Thr	Ser	Leu	Ser	Ala	GIn	Trp
				290					295					300
Thr	Pro	Pro	Asn	V a I	GIn	Leu	Thr	Gly	Tyr	Arg	Val	Arg	Val	Thr
				305					310					315
Pro	Lys	Glu	Lys	Thr	Gly	Pro	Met	Lys	Glu	lle	Asn	Leu	Ala	Pro
				320					325					330
Asp	Ser	Ser	Ser	Val	Val	Val	Ser	Gly	Leu	Met	V a I	Ala	Thr	Lys
				335					340					345
Tyr	Glu	Val	Ser	Val	Tyr	Ala	Leu	Lys	Asp	Thr	Leu	Thr	Ser	Arg
				350					355					360
Pro	Ala	Gin	Gly		Val	Thr	Thr	Leu	Glu	Asn	Val	Ser	Pro	Pro
				365					370					375
Arg	Arg	Ala	Arg		Thr	Asp	Ala	Thr		Thr	Thr	lle	Thr	
				380					385					390
Ser	Trp	Arg	Thr	_	Thr	Glu	Thr	1 l e		Gly	Phe	GIn	Val	
		_		395				_	400					405
Ala	Val	Pro	Ala		Gly	Gin	Thr	Pro		Gln	Arg	Thr	He	
_				410	_	- .			415			_		420
Pro	Asp	Val	Arg		ıyr	ınr	IIE	Inr		Leu	GIN	Pro	GIY	
A = =	T	1	11-	425	سما	T.	Th ~	1	430	A ~ ~	A ~ ~	A 1 -	A	435
ASP	ıyr	Lys	lle	1 y r 4 4 0	Leu	ıyr	ınr	Leu	Asn 445	ASP	ASN	AIA	Arg	5er 450
				440					445					401

Ser Pro Val Val lle Asp Ala Ser Thr Ala lle Asp Ala Pro Ser 455 460 465 Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser 470 475 Trp Gin Pro Pro Arg Ala Arg lie Thr Gly Tyr lie lie Lys Tyr 485 490 495 Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg 500 505 510 Pro Gly Val. Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr 515 520 525 Glu Tyr Thr lie Tyr Val lle Ala Leu Lys Asn Asn Gln Lys Ser 530 540 535 Glu Pro Leu lie Gly Arg Lys Lys Thr 545

<210> 13

<211> 574

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CH-296

<400> 13

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

1				5					10					15
Val	Thr	Trp	Ala	Pro	Pro	Pro	Ser	lle	Asp	Leu	Thr	Asn	Phe	Leu
				20					2 5					30
V a I	Arg	Tyr	Ser	Pro	V a I	Lys	Asn	Glu	Glu	Asp	Val	Ala	Glu	Leu
				35					40					45
Ser	l I e	Ser	Pro	Ser	Asp	Asn	Ala	Val	Val	Leu	Thr	Asn	Leu	Leu
				50					5 5					60
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	GIn
				65					70					75
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	Gln	Lys	Thr	Gly	Leu	Asp
				80					85					90
Ser	Pro	Thr	Gly	lle	Asp	Phe	Ser	Asp	lle	T _i h r	Ala	Asn	Ser	Phe
				95					100					105
Thr	Val	His	Trp	lle	Ala	Pro	Arg	Ala	Thr	lle	Thr	Gly	Tyr	Arg
				110					115					120
l l e	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp
				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	Пe	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	lle	V a I	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	IІе	Gly	GIn	Gln	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	lle	Ser	Trp	Asp	Ala	Pro	Ala	V a I	Thr	Val	Arg	Tyr	Tyr	Arg

		-		200					205					210
Пe	Thr	Tyr	Giy	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	GIn	Glu	Phe
				215					220					225
Thr	V a I	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	lle	Ser	Gly	Leu	Lys
				230					235					240
Pro	Gly	Val	Asp	Tyr	Thr	lle	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	lle	Asn	Tyr	Arg
				260					265		•			270
Thr	Glu	l l e	Asp	Lys	Pro	Ser	Met	Ala	lle	Pro	Ala	Pro	Thr	Asp
				275					280					285
Leu	Lys	Phe	Thr	Gin	Vai	Thr	Pro	Thr	Ser	Leu	Ser	Ala	GIn	Trp
				290					295					300
Thr	Pro	Pro	Asn	Val	Gln	Leu	Thr	Gly	Tyr	Arg	Val	Arg	Val	Thr
				305					310					315
Pro	Lys	Glu	Lys	Thr	Gly	Pro	Met	Lys	Glu	He	Asn	Leu	Ala	Pro
				320					325					330
Asp	Ser	Ser	Ser		Val	Val	Ser	Gly	Leu	Met	Val	Ala	Thr	Lys
				335					340					345
Tyr	Glu	Val	Ser		Tyr	Ala	Leu	Lys	Asp	Thr	Leu	Thr	Ser	Arg
				350					355					360
Pro	Ala	GIn	Gly		Val	Thr	Thr	Leu		Asn	Val	Ser	Pro	Pro
				365					370					375
Arg	Arg	Ala	Arg		Thr	Asp	Ala	Thr		Thr	Thr	ile	Thr	
_				380					385					390
Ser	Trp	Arg	Thr	Lys	Thr	Glu	Thr	lle	Thr	Gly	Phe	GIn	Val	Asp

				395					400					405
Ala	Val	Pro	Ala	Asn	Gly	Gln	Thr	Pro	Пe	Gln	Arg	Thr	lle	Lys
				410					415					420
Pro	Asp	Val	Arg	Ser	Tyr	Thr	lle	Thr	Gly	Leu	GIn	Pro	Gly	Thr
				425					430					435
Asp	Туr	Lys	1-1 e	Tyr	Leu	Tyr	Thr	Leu	Asn	Asp	Asn	Ala	Arg	Ser
				440					445					450
Ser	Pro	Val	Val	lle	Asp	Ala	Ser	Thr	Ala	Пe	Asp	Ala	Pro	Ser
				455					460					465
Asn	Leu	Arg	Phe	Leu	Ala	Thr	Thr	Pro	Asn	Ser	Leu	Leu	Val	Ser
				470					475					480
Trp	Gln	Pro	Pro	Arg	Ala	Arg	11e	Thr	Gly	Tyr	Пe	He	Lys	Tyr
				485					490					495
Glu	Lys	Pro	Gly	Ser	Pro	Pro	Arg	Glu	Val	Val	Pro	Arg	Pro	Arg
				500					505					510
Pro	Gly	Val	Thr	Glu	Ala	Thr	lle	Thr	Gly	Leu	Glu	Pro	Gly	Thr
				515					520					525
Glu	Tyr	Thr	lle	Tyr	Val	Пe	Ala	Leu	Lys	Asn	Asn	GIn	Lys	Ser
				530					535					540
Glu	Pro	Leu	Пe	Gly	Arg	Lys	Lys	Thr	Asp	Glu	Leu	Pro	GIn	Leu
				545					550				٠	555
Val	Thr	Leu	Pro	His	Pro	Asn	Leu	His	Gly	Pro	Glu	lle	Leu	Asp
				560					565					570

Val Pro Ser Thr

<210> 14

<211> 302

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named C-CS1

20

<400> 14

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

10 15

Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr Asn Phe Leu

25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lle Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

50 55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

85 90

Ser Pro Thr Gly lie Asp Phe Ser Asp lie Thr Ala Asn Ser Phe

95 100 105

Thr Val His Trp 11e Ala Pro Arg Ala Thr 11e Thr Gly Tyr Arg

110 115 120

lle Arg His His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp

				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	lle	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	V a I	Ser	lle	Val	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	lle	Gly	Gln	GIn	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	V a I	Vai	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	Пe	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg
				200					205					210
lle	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	Gln	Glu	Phe
				215					220					225
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	He	Ser	Gly	Leu	Lys
				230					235					240
Pro	Gly	Val	Asp	Tyr	Thr	lle	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	lle	Asn	Tyr	Arg
				260					265					270
Thr	Glu	lle	Asp	Lys	Pro	Ser	Asp	Glu	Leu	Pro	Gln	Leu	Val	Thr
				275					280					285
Leu	Pro	His	Pro	Asn	Leu	His	Gly	Pro	Glu	lle	Leu	Asp	Val	Pro
				290					295					300
Ser	Thr													

<210> 15

(211) 367

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-89

20

50

80

<400> 15

Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro Asp Thr Met Arg

5 10 15

Vai Thr Trp Ala Pro Pro Pro Ser lie Asp Leu Thr Asn Phe Leu

25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser lie Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

85 90

Ser Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe

95 100 105

Thr Val His Trp lle Ala Pro Arg Ala Thr lle Thr Gly Tyr Arg

110 115 120

lle Arg His His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp

				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	Пе	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	V a I	Ser	l I e	Val	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	Пe	Gly	GIn	Gln	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	1 l e	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg
				200					205					210
Пe	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	Gin	Glu	Phe
				215					220					225
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	lle	Ser	Gly	Leu	Lys
				230					235					240
Pro	Gly	Val	Asp	Tyr	Thr	Пe	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	lle	Asn	Tyr	Arg
				260					265					270
Thr	Glu	lle	Asp		Pro	Ser	Met	Asn		Ser	Pro	Pro	Arg	
				275					280					285
Ala	Arg	Val	Thr		Ala	Thr	Glu	Thr		lle	Thr	He	Ser	
				290					295					300
Arg	Thr	Lys	Thr		Thr	lle	Thr	Gly		GIn	Val	Asp	Ala	
				305					310				_	315
Pro	Ala	Asn	Gly	Gln	Thr	Pro	Пe	Gln	Arg	Thr	lle	Lys	Pro	Asp

 Val
 Arg
 Ser
 Tyr
 Thr
 Ile
 Thr
 Gly
 Leu
 Gln
 Pro
 Gly
 Thr
 Asp
 Tyr

 Lys
 Ile
 Tyr
 Leu
 Tyr
 Thr
 Leu
 Asp
 Asp
 Asp
 Ala
 Arg
 Ser
 Ser
 Pro

 Val
 Val
 Ile
 Asp
 Ala
 Ser
 Thr

<210> 16

<211> 368

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-90

365

<400> 16

Pro Thr Asp Leu Arg Phe Thr Asn IIe Gly Pro Asp Thr Met Arg

1 5 10 15

Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu
20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu
35 40 45

Ser IIe Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu
50 55 60

Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	GIn
				65					70					75
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	Gln	Lys	Thr	Gly	Leu	Asp
				80					85					90
Ser	Pro	Thr	Gly	11e	Asp	Phe	Ser	Asp	lle	Thr	Ala	Asn	Ser	Phe
				95					100					105
Thr	V a l	His	Trp	He	Ala	Pro	Arg	Ala	Thr	lle	Thr	Gly	Tyr	Arg
				110					115					120
lle	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp
				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	Пe	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	lle	Val	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	lle	Gly	Gin	Gin	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	He	Ser	Trp		Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	
				200					205					210
lle	Thr	Tyr	Gly		Thr	Gly	Gly	Asn		Pro	Val	Gin	Glu	
				215					220					225
Thr	Val	Pro	Gly		Lys	Ser	Thr	Ala		He	Ser	Gly	Leu	
				230					235					240
Pro	Gly	Val	Asp		Thr	lle	Thr	Val		Ala	Val	Thr	Gly	
				245					250					255

Gly Asp Ser Pro Ala Ser Ser Lys Pro 11e Ser 11e Asn Tyr Arg 260 265 Thr Glu lle Asp Lys Pro Ser Met Ala lle Asp Ala Pro Ser Asn 280 285 275 Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp 300 295 290 Gin Pro Pro Arg Ala Arg lie Thr Gly Tyr lie lie Lys Tyr Glu 305 310 315 Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro 325 330 320 Gly Val Thr Glu Ala Thr lie Thr Gly Leu Glu Pro Gly Thr Glu 340 345 335 Tyr Thr lle Tyr Val lle Ala Leu Lys Asn Asn Gln Lys Ser Glu 350 355 360 Pro Leu Ile Gly Arg Lys Lys Thr 365

<210> 17

<211> 370

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-92

Pro	Thr	Asp	Leu	Arg	Phe	Thr	Asn	lle	Gly	Pro	Asp	Thr	Met	Arg
1				5					10					15
Val	Thr	Trp	Ala	Pro	Pro	Pro	Ser	lle	Asp	Leu	Thr	Asn	Phe	Leu
				20					25					30
Val	Arg	Tyr	Ser	Pro	Val	Lys	Asn	Glu	Glu	Asp	Val	Ala	Glu	Leu
				3 5					40					45
Ser	lle	Ser	Pro	Ser	Asp	Asn	Ala	V a I	Val	Leu	Thr	Asn	Leu	Leu
				50					55					60
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	Gln
				6 5					70					75
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	GIn	Lys	Thr	Gly	Leu	Asp
				80					85					90
Ser	Pro	Thr	Gly	11e	Asp	Phe	Ser	Asp	He	Thr	Ala	Asn	Ser	Phe
				95					100					105
Thr	Val	His	Trp		Ala	Pro	Arg	Ala		lle	Thr	Gly	Tyr	
				110					115					120
lle	Arg	His	His		Glu	His	Phe	Ser		Arg	Pro	Arg	Glu	
		_		125			_		130					135
Arg	Val	Pro	His		Arg	Asn	Ser	ile		Leu	Thr	Asn	Leu	
	0.1	- .		140					145				0.1	150
Pro	ыу	inr	Giu		Vai	vai	5 e r	He		АІа	Leu	ASN	Gly	
C I	C1	٠	D = 0	155	1	11.	C 1	C 1 =	160	٠	Th.,	V = 1	٠	165
uiU	GIU	ser	rro	170	Leu	ile	uly	uIN	175	ser	inr	val	Ser	180°
V a I	Pro	Δra	Δsn		CJ	Val	Val	Δ1 a		The	Dro	The	Ser	
v a i	1 1 0	ULR	nsp	Leu	GIU	v a i	741	nia	nia	1 11 1	110	1 11 1	361	LCU

				185					190					195
Leu	He	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg
				200				-	205					210
Пе	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	Gln	Glu	Phe
				215					220					225
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	Пе	Ser	Gly	Leu	Lys
				230					235			٠		240
Pro	Gly	Val	Asp	Tyr	Thr	Пе	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	Пe	Asn	Tyr	Arg
				260					265					270
Thr	Glu	lle	Asp	Lys	Pro	Ser	Met	Ala	lle	Pro	Ala	Pro	Thr	Asp
				275					280					285
Leu	Lys	Phe	Thr	GIn	Val	Thr	Pro	Thr	Ser	Leu	Ser	Ala	Gln	Trp
				290					295					300
Thr	Pro	Pro	Asn	Val	Gln	Leu	Thr	Gly	Tyr	Arg	Val	Arg	Val	Thr
				305					310					315
Pro	Lys	Glu	Lys	Thr	Gly	Pro	Met	Lys	Glu	lle	Asn	Leu	Ala	Pro
				320					325					330
Asp	Ser	Ser	Ser	Val	Val	Val	Ser	Gly	Leu	Met	Val	Ala	Thr	Lys
				335					340					345
Tyr	Glu	Val	Ser	Val	Tyr	Ala	Leu	Lys	Asp	Thr	Leu	Thr	Ser	Arg
				350					355					360
Pro	Ala	GIn	Gly	Val	Val	Thr	Thr	Leu	Glu					
				365					370					

<210> 18

<211> 457

<212> PRT

<213> Artificial Sequence

<220>

<223> fibronectin fragment named CHV-179

<400> 18

Pro Thr Asp Leu Arg Phe Thr Asn IIe Gly Pro Asp Thr Met Arg

5 10 1

Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu

20 25 30

Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu

35 40 45

Ser ile Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu

50 55 60

Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln

65 70 75

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp

80

85 90

Ser Pro Thr Gly lie Asp Phe Ser Asp lie Thr Ala Asm Ser Phe

95 100 105

Thr Val His Trp lle Ala Pro Arg Ala Thr lie Thr Gly Tyr Arg

110 115 120

Пe	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp
				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	lle	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	11e	Val	Ala	Leu	Asn	Gly	Arg
				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	lle	Gly	GIn	GIn	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Vai	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	lle	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg
				200					205					210
lle	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	Gln	Glu	Phe
				215					220					225
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	lle	Ser	Gly	Leu	Lys
				230					235					240
Pro	Gly	Val	Asp	Tyr	Thr	11e	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	He	Asn	Tyr	Arg
				260					265					270
Thr	Glu	Пe	Asp	Lys	Pro	Ser	Met	Asn	Val	Ser	Pro	Pro	Arg	Arg
				275					280					285
Ala	Arg	Val	Thr	Asp	Ala	Thr	Glu	Thr	Thr	lle	Thr	lle	Ser	Trp
				290					295					300
Arg	Thr	Lys	Thr	Glu	Thr	Пe	Thr	Gly	Phe	GIn	Val	Asp	Ala	Val
				305					310					315

Pro Ala Asn Gly Gln Thr Pro IIe Gln Arg Thr IIe Lys Pro Asp Val Arg Ser Tyr Thr lie Thr Gly Leu Gin Pro Gly Thr Asp Tyr Lys lle Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro Val Val ile Asp Ala Ser Thr Ala !ie Asp Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gin Pro Pro Arg Ala Arg lie Thr Gly Tyr lle lie Lys Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr Glu Ala Thr lie Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr lie Tyr Val lie Ala Leu Lys Asn Asn Gin Lys Ser Glu Pro Leu lle Gly Arg Lys Lys Thr

<210> 19

<211> 459

<212> PRT

<213> Artificial Sequence

$\langle 223 \rangle$ fibronectin fragment named CHV-181

<400	0> 19	9												
Pro	Thr	Asp	Leu	Arg	Phe	Thr	Asn	Пe	Gly	Pro	Asp	Thr	Met	Arg
1				5					10					15
Val	Thr	Trp	Ala	Pro	Pro	Pro	Ser	Пе	Asp	Leu	Thr	Asn	Phe	Leu
				20					25					30
Val	Arg	Tyr	Ser	Pro	Val	Lys	Asn	Glu	Glu	Asp	Vai	A I,a	Glu	Leu
				3 5					40					45
Ser	lle	Ser	Pro	Ser	Asp	Asn	Ala	V a 1	Val	Leu	Thr	Asn	Leu	Leu
				50					55					60
Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	Gln
				6 5					70					75
His	Glu	Ser	Thr	Pro	Leu	Arg	Gly	Arg	Gln	Lys	Thr	Gly	Leu	Asp
				80					8 5					90
Ser	Pro	Thr	Gly	lle	Asp	Phe	Ser	Asp	lle	Thr	Ala	Asn	Ser	Phe
				95					100					105
Thr	Val	His	Trp	lle	Ala	Pro	Arg	Ala	Thr	lle	Thr	Gly	Tyr	Arg
				110					115					120
Пе	Arg	His	His	Pro	Glu	His	Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp
				125					130					135
Arg	Val	Pro	His	Ser	Arg	Asn	Ser	lle	Thr	Leu	Thr	Asn	Leu	Thr
				140					145					150
Pro	Gly	Thr	Glu	Tyr	Val	V a I	Ser	Пе	Val	Ala	Leu	Asn	Gly	Arg

				155					160					165
Glu	Glu	Ser	Pro	Leu	Leu	lle	Gly	GIn	GIn	Ser	Thr	Val	Ser	Asp
				170					175					180
Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr	Pro	Thr	Ser	Leu
				185					190					195
Leu	lle	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg	Tyr	Tyr	Arg
				200	٠				205					210
lle	Thr	Tyr	GІу	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Val	GIn	Glu	Phe
				215					220					225
Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	Пe	Ser	Gly	Leu	Lys
				230					235					240
Pro	Gly	Val	Asp	Tyr	Thr	I 1 e	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	He	Ser	lle	Asn	Tyr	Arg
				260					265					270
Thr	Glu	i i e	Asp	Lys	Pro	Ser	Met	Ala	lle	Pro	Ala	Pro	Thr	Asp
				275					280					285
Leu	Lys	Phe	Thr	Gln	Val	Thr	Pro	Thr	Ser	Leu	Ser	Ala	GIn	Trp
				290					295					300
Thr	Pro	Pro	Asn	Val	GIn	Leu	Thr	Gly	Tyr	Arg	V a l	Arg	Val	Thr
				305					310					315
Pro	Lys	Glu	Lys	Thr	Gly	Pro	Met	Lys	Glu	He	Asn	Leu	Ala	Pro
				320					325					330
Asp	Ser	Ser	Ser	Val	Val	Val	Ser	Gly	Leu	Met	Val	Ala	Thr	Lys
				335					340					345
Tyr	Glu	Val	Ser	Val	Tyr	Ala	Leu	Lys	Asp	Thr	Leu	Thr	Ser	Arg

350 355 360 Pro Ala Gin Gly Val Val Thr Thr Leu Glu Asn Val Ser Pro Pro 370 375 365 Arg Arg Ala Arg Val Thr Asp Ala Thr Glu Thr Thr ile Thr ile 380 385 390 Ser Trp Arg Thr Lys Thr Glu Thr lle Thr Gly Phe Gln Val Asp 395 400 405 Ala Val Pro Ala Asn Gly Gln Thr Pro lie Gln Arg Thr lle Lys 410 415 420 Pro Asp Val Arg Ser Tyr Thr lle Thr Gly Leu Gln Pro Gly Thr 430 435 425 Asp Tyr Lys lle Tyr Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser 440 445 450 Ser Pro Val Val IIe Asp Ala Ser Thr

<210> 20

<211> 276

<212> PRT

<213> Artificial Sequence

455

<220>

<223> fibronectin fragment named H-275-Cys

<400> 20

Met	Ala	Ala	Ser	Ala	l I e	Pro	Ala	Pro	Thr	Asp	Leu	Lys	Phe	Thr
1				5					10					15
GIn	Val	Thr	Pro	Thr	Ser	Leu	Ser	Ala	GIn	Trp	Thr	Pro	Pro	Asn
				20					25					30
Val	Gln	Leu	Thr	Gly	Tyr	Arg	Val	Arg	Val	Thr	Pro	Lys	Glu	Lys
				3 5					40					45
Thr	Gly	Pro	Met	Lys	Glu	lle	Asn	Leu	Ala	Pro	Asp	Ser	Ser	Ser
				50					55					60
Val	Vai	Val	Ser	Gly	Leu	Met	Val	Ala	Thr	Lys	Tyr	Glu	Val	Ser
				6 5					70					75
Val	Tyr	Ala	Leu	Lys	Asp	Thr	Leu	Thr	Ser	Arg	Pro	Ala	GIn	Gly
				80					85					90
Val	Val	Thr	Thr	Leu	Glu	Asn	Val	Ser	Pro	Pro	Arg	Arg	Ala	Arg
				95					100					105
Val	Thr	Asp	Ala	Thr	Glu	Thr	Thr	lle	Thr	He	Ser	Trp	Arg	Thr
				110					115					120
Lys	Thr	Glu	Thr	lle	Thr	Gly	Phe	Gln	Val	Asp	Ala	Val	Pro	Ala
				125					130					135
Asn	Gly	GIn	Thr	Pro	Пe	GIn	Arg	Thr	He	Lys	Pro	Asp	Val	Arg
				140					145					150
Ser	Tyr	Thr	1 l e	Thr	Gly	Leu	Gln	Pro	Gly	Thr	Asp	Tyr	Lys	lle
			•	155					160					165
Tyr	Leu	Tyr	Thr	Leu	Asn	Asp	Asn	Ala	Arg	Ser	Ser	Pro	Val	Val
				170					175					180
lle	Asp	Ala	Ser	Thr	Ala	lle	Asp	Ala	Pro	Ser	Asn	Leu	Arg	Phe
				185					190					195

Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln Pro Pro
200 205 210

Arg Ala Arg lie Thr Gly Tyr lie lie Lys Tyr Glu Lys Pro Gly

215 220 225

Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly Val Thr

230 235 240

Glu Ala Thr lle Thr Gly Leu Glu Pro Gly Thr Glu Tyr Thr lle

245 250 255

Tyr Val lie Ala Leu Lys Asn Asn Gin Lys Ser Giu Pro Leu lie

260 265 270

Gly Arg Lys Lys Thr Cys

275

<210> 21

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> primer 12S

<400> 21

aaaccatggc agctagcgct attcctgcac caactgac

38

<210> 22 <211> 36 <212> DNA <213> Artificial Sequence <220> <223> primer 14A <400> 22 36 aaaggatccc taactagtct ttttccttcc aatcag <210> 23 <211> 40 <212> DNA <213> Artificial Sequence <220> <223> primer Cys-A <400> 23 aaaagcggcc gctagcgcaa gccatggtct gtttcctgtg 40

<210> 24

<211> 41

<212> DNA <213> Artificial Sequence (220) <223> primer Cys-S <400> 24 41 aaaagcggcc gcactagtgc atagggatcc ggctgagcaa c <210> 25 <211> 658 <212> PRT <213> Artificial Sequence <220> <223> fibronectin fragment named CH-296Na <400> 25 Met Pro Thr Asp Leu Arg Phe Thr Asn IIe Gly Pro Asp Thr Met Arg . 10 Val Thr Trp Ala Pro Pro Pro Ser IIe Asp Leu Thr Asn Phe Leu Val 30 20 25 Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala Glu Leu Ser !le 35 40 45 Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu Leu Pro Gly Thr

^	•
h	ı
v	•

Glu	Tyr	Val	Val	Ser	Val	Ser	Ser	Val	Tyr	Glu	GIn	His	Glu	Ser	Thr
65					70					75		٠			80
Pro	Leu	Arg	Gly	Arg	Gln	Lys	Thr	Gly	Leu	Asp	Ser	Pro	Thr	Gly	Пe
				85					90					95	
Asp	Phe	Ser	Asp	Пе	Thr	Ala	Asn	Ser	Phe	Thr	Val	His	Trp	lle	Ala
		٠	100					105					110		
Pro	Arg	Ala	Thr	Пe	Thr	Gly	Tyr	Arg	lle	Arg	His	His	Pro	Glu	His
		115					120					125			
Phe	Ser	Gly	Arg	Pro	Arg	Glu	Asp	Arg	Val	Pro	His	Ser	Arg	Asn	Ser
	130					135					140				
He	Thr	Leu	Thr	Asn	Leu	Thr	Pro	Gly	Thr	Glu	Tyr	Val	Val	Ser	Пe
145					150					155					160
Val	Ala	Leu	Asn	Gly	Arg	Glu	Glu	Ser	Pro	Leu	Leu	He	Gly	GIn	GIn
				165					170					175	
Ser	Thr	V a I	Ser	Asp	Val	Pro	Arg	Asp	Leu	Glu	Val	Val	Ala	Ala	Thr
			180					185					190		
Pro	Thr	Ser	Leu	Leu	He	Ser	Trp	Asp	Ala	Pro	Ala	Val	Thr	Val	Arg
		195					200					205			
Tyr	Tyr	Arg	lle	Thr	Tyr	Gly	Glu	Thr	Gly	Gly	Asn	Ser	Pro	Vai	Gln
	210					215					220				
Glu	Phe	Thr	Val	Pro	Gly	Ser	Lys	Ser	Thr	Ala	Thr	l 1 e	Ser	Gly	Leu
225					230					235					240
Lys	Pro	Gly	Val	Asp	Tyr	Thr	lle	Thr	Val	Tyr	Ala	Val	Thr	Gly	Arg
				245					250					255	
Gly	Asp	Ser	Pro	Ala	Ser	Ser	Lys	Pro	lle	Ser	Пe	Asn	Tyr	Arg	Thi

			260					265					270		
Glu	lle	Asp	Lys	Pro	Ser	GIn	Met	GIn	V a I	Thr	Asp	Val	Gln	Asp	Asn
		275					280					285			
Ser	Пe	Ser	Val	Lys	Trp	Leu	Pro	Ser	Ser	Ser	Pro	Val	Thr	Gly	Tyr
	290					295					300				
Arg	Val	Thr	Thr	Thr	Pro	Lys	Asn	Gly	Pro	Gly	Pro	Thr	Lys	Thr	Lys
305					310					315					320
Thr	Ala	Gly	Pro	Asp	Gln	Thr	Glu	Met	Thr	Пе	Glu	Gly	Leu	Gln	Pro
				325					330					335	
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Ser	Gln	Pro	Leu	V a I	Gln	Thr	Ala	Val	Thr	Ala	l l e	Pro	Ala	Pro	Thr
		355					360					365			
Asp	Leu	Lys	Phe	Thr	Gln	V a I	Thr	Pro	Thr	Ser	Leu	Ser	Ala	Gln	Trp
Asp	Leu 370	Lys	Phe	Thr	Gln	V a I 375	Thr	Pro	Thr	Ser	Leu 380	Ser	Ala	GIn	Trp
	370		Phe Asn			375					380				
	370					375					380				
Thr 385	370 Pro	Pro		Val	GIn 390	375 Leu	Thr	Gly	Tyr	Arg 395	380 Val	Arg	Val	Thr	Pro 400
Thr 385	370 Pro	Pro	Asn	Val	GIn 390	375 Leu	Thr	Gly	Tyr	Arg 395	380 Val	Arg	Val	Thr	Pro 400
Thr 385 Lys	370 Pro Glu	Pro Lys	Asn Thr	Val Gly 405	GIn 390 Pro	375 Leu Met	Thr Lys	Gly Glu	Tyr lle 410	Arg 395 Asn	380 Val Leu	Arg Ala	Val Pro	Thr Asp 415	Pro 400
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Thr 385 Lys Ser	370 Pro Glu Ser	Pro Lys Val	Asn Thr Val	Val Gly 405 Val	GIn 390 Pro Ser	375 Leu Met	Thr Lys Leu	Gly Glu Met 425	Tyr lle 410 Val	Arg 395 Asn Ala	380 Val Leu Thr	Arg Ala Lys	Val Pro Tyr 430	Thr Asp 415 Glu	Pro 400 Ser Val
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Thr 385 Lys Ser	370 Pro Glu Ser	Pro Lys Val Tyr 435	Asn Thr Val 420	Val Gly 405 Val Leu	GIn 390 Pro Ser Lys	375 Leu Met Gly	Thr Lys Leu Thr 440	Gly Glu Met 425 Leu	Tyr lle 410 Val	Arg 395 Asn Ala Ser	380 Val Leu Thr	Arg Ala Lys Pro 445	Val Pro Tyr 430 Ala	Thr Asp 415 Glu	Pro 400 Ser Val
Thr 385 Lys Ser	370 Pro Glu Ser	Pro Lys Val Tyr 435	Asn Thr Val 420 Ala	Val Gly 405 Val Leu	GIn 390 Pro Ser Lys	375 Leu Met Gly	Thr Lys Leu Thr 440	Gly Glu Met 425 Leu	Tyr lle 410 Val	Arg 395 Asn Ala Ser	380 Val Leu Thr	Arg Ala Lys Pro 445	Val Pro Tyr 430 Ala	Thr Asp 415 Glu	Pro 400 Ser Val

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Leu	Leu	Val	Ser	Trp	Gln	Pro	Pro	Arg	Ala	Arg	1 l e	Thr	Gly	Tyr	lle
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ΙΙe	Lys	Tyr	Glu	Lys	Pro	Gly	Ser	Pro	Pro	Arg	Glu	Val	V a I	Pro	Arg
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Pro	Arg	Pro	Gly	Val	Thr	Glu	Ala	Thr	Пe	Thr	Giy	Leu	Glu	Pro	Gly
		595					600					605			
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	610					615					620				
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